

Turek et al.

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(54) MOBILE AGENTS FOR FAULT DIAGNOSIS AND CORRECTION IN A DISTRIBUTED COMPUTER ENVIRONMENT

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This patent is subject to a terminal disclaimer.

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(58) Field of Search 709/202, 223, 709/224, 239, 240, 206, 203; 370/241, 242; 714/4, 25, 46

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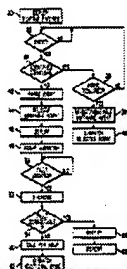
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(57) ABSTRACT

A large distributed enterprise includes computing resources that are organized into one or more managed regions, each region being managed by a management server servicing one or more gateway machines, with each gateway machine servicing a plurality of endpoint machines. A method of diagnosing a fault in such an environment begins by deploying a management infrastructure throughout the computer network, the management infrastructure including a runtime environment at each of the endpoint machines. In response to occurrence of the fault, a software agent is selected, the software agent being executable by the runtime environment at an endpoint machine. The selected software agent is then deployed into the computer network to diagnosis the fault. If the location of the fault is indeterminate, the software agent migrates to the location by gathering information about the fault as it traverses the network.

30 Claims, 5 Drawing Sheets



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1 US 6738933	72	714/47	702/186	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2 US 6724736	19	370/286		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3 US 6636752	29	600/310	356/364	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4 US 6628777	16	379/265	379/265	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5 US 6564342	34	714/48	709/224	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6 US 6490530	16	702/24	702/23	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7 US 6460070	15	709/202	709/223	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8 US 6459787	14	379/265	705/11	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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10 US 6324282	15	379/265	705/11	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11 US 6308208	12	709/224	709/201	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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HTML

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(45) Date of Patent: Apr. 21, 1998

[54] NETWORK MANAGEMENT GATEWAY

5,581,558 12/1996 Horsey, II et al. 370401

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[57] ABSTRACT

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[58] Field of Search 395/200.01, 200.09, 395/200.11, 200.12, 370/370.13

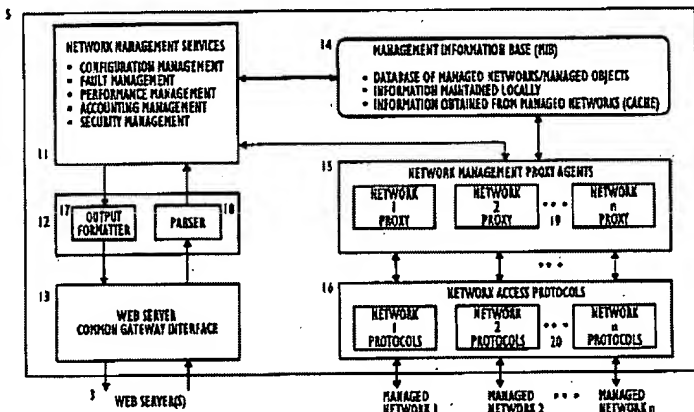
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The present invention provides network management of a network or multiple networks, using a Web client, and including multimedia and hypermedia capability. The present invention provides a unified, remote, graphical, transparent interface for Web users, working at a Web client, to a variety of managed networks. The present invention receives requests from a Web client forwarded by a Web server and interacts with the managed networks and their associated objects to obtain information. The present invention then converts this information in real time to hypermedia document format in HTTP and HTML, and transmits this information to the Web client via the Web server, appearing to the client as information in a Web file. This permits a Web user to manage multiple networks and access multiple networks via a single Web client, thus providing a unification of the management interface for distributed managed networks, and devices.

18 Claims, 6 Drawing Sheets



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1 US 6718535	278	717/101	717/120	F	F
2 US 6704873	273	713/201	709/223	F	F
3 US 6633878	270	707/100	707/1	F	F
4 US 6609128	268	707/10	707/200	F	F
5 US 6601233	278	717/102	717/100	F	F
6 US 6523027	285	707/4	707/10	F	F
7 US 6373817	32	370/217	370/215	F	F
8 US 6145001	14	709/223	709/200	F	F
9 US 5742762	14	709/200	709/223	F	F